

Appl. No. 09/970,382  
Amndt. Dated September 30, 2003  
Reply to Office Action of July 1, 2003

Listing of Claims:

Please amend claims 3, 4 and 13.

Please cancel claims 14 - 17.

1. (Twice Amended) A method of differentiating primate embryonic stem cells into neural precursor cells, comprising the steps of:

(a) obtaining a primate embryonic stem cell culture,

(b) propagating the stem cells, wherein embryoid bodies are formed, and

(c) culturing the embryoid bodies in a medium containing an effective amount of fibroblast growth factor 2, wherein neural precursor cells are generated and wherein the neural precursor cells form rosette formations.

3. (Thrice Amended) The method of claim 1 further comprising the step of isolating the neural precursors by enzymatic treatment wherein the treatment leads to the preferential detachment of cells in rosette formations relative to and the preferential attachment of surrounding cells that are not in a rosette formation.

4. (Amended) The method of claim 1 wherein the amount of fibroblast growth factor 2 in the medium of step ~~(d)~~ (c) is between 10 and 20 ng/ml.

5. (Original) The method of claim 1 wherein the embryonic stem cell culture is a human embryonic stem cell culture.

6. (Original) The method of claim 1 wherein the culture of step (c) is at least 72% neural precursor cells.

7. (Original) The method of claim 6 wherein the percentage of neural precursor cells is at least 84%.

8. (Original) The method of claim 3 wherein the isolation procedure results in an enriched population of neural precursor cells, wherein at least 90% of the cells are neural precursor cells.

9. (Original) The method of claim 8 wherein at least 95% of the cells are neural precursor cells.

10. (Original) The method of claim 1 wherein the embryonic stem cell culture is selected from the group consisting of human ES cell lines H1, H9 and H9.2.

11. (Original) The method of claim 1 wherein the embryonic stem cells are propagated on a feeder layer of irradiated mouse embryonic fibroblasts.

13. (Amended) The method of claim 1 wherein step ~~(d)~~  
(c) comprises culturing the embryoid bodies in a medium comprising insulin, transferrin, progesterone, putrescine, sodium selenite and heparin.

14. (Cancelled) An isolated cell population comprising at least 72% neural precursor cells wherein the cells are forming rosette formations.

15. (Cancelled) The cell population of claim 14, wherein the population comprises at least 84% neural precursor cells.

16. (Cancelled) The cell population of claim 15 comprising at least 90% neural precursor cells.

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17. (Cancelled) The cell population of claim 16 comprising at least 95% neural precursor cells.